

### In the Claims

Claims 26, 28, 30, 31, 33, 35, 36, 38, 40, 41, 43-45, 47, 48, 50, 51, 54-58, 61-64, 67-71, and 74-77 are pending in the application with claims 26, 31, 38, 40, 41, 43, 47, 56, 63, 67, 70, 74, and 77 amended herein and claims 29, 32, 34, 37, 39, 42, 46, 49, 52, 53, 59, 60, 65, 66, 72, 73, and 78 cancelled herein.

Claims 1-25 (cancelled).

26. (currently amended) A capacitor construction comprising a first capacitor electrode over a substrate, a capacitor dielectric layer over the first electrode, a second capacitor electrode over the dielectric layer, and an atomic layer deposited conductive barrier layer to oxygen diffusion between the first and second electrodes, the dielectric layer being on and in physical contact with the barrier layer and the barrier layer containing WN and being on and in physical contact with the first capacitor electrode.

27. (cancelled).

28. (previously presented) The construction of claim 26 further comprising another conductive barrier layer to oxygen diffusion over the dielectric layer.

29. (cancelled).

30. (original) The construction of claim 26 wherein the dielectric layer exhibits a K factor of greater than about 7 at 20° C.

31. (currently amended) A capacitor construction comprising:  
a first capacitor electrode over a substrate;  
a conductive barrier layer to oxygen diffusion on and in physical contact with the first electrode, the barrier layer comprising VN as a chemisorption product of first and second precursor layers;  
a capacitor dielectric layer on and in physical contact with the barrier layer; and  
a second capacitor electrode over the dielectric layer.

32. (cancelled).

33. (original) The construction of claim 31 wherein the dielectric layer exhibits a K factor of greater than about 7 at 20° C.

34. (cancelled).

35. (previously presented) The construction of claim 26 wherein the barrier layer comprises a plurality of atomic layer deposited monolayers.

36. (previously presented) The construction of claim 31 wherein the first and second precursor layers each comprise one atomic layer deposited monolayer.

37. (cancelled).

38. (currently amended) A capacitor construction comprising a first capacitor electrode containing HSG polysilicon over a substrate, a capacitor dielectric layer containing oxygen over the first electrode, a second capacitor electrode over the dielectric layer, ~~and an~~ a first atomic layer deposited metal-containing conductive layer as a barrier to oxygen diffusion between and in physical contact with both the first electrode and dielectric layer, and a second atomic layer deposited metal-containing conductive layer as a barrier to oxygen diffusion between the dielectric layer and second electrode.

39. (cancelled).

40. (currently amended) The construction of claim 38 wherein the atomic layer deposited conductive layers comprise ~~layer comprises~~ elemental metal, a metal alloy, or a metal-containing compound.

41. (currently amended) The construction of claim 38 wherein the atomic layer deposited conductive layers comprise ~~layer comprises~~ WN, WSiN, TaN, TiN, TiSiN, Pt, Pt alloys, Ir, Ir alloys, Pd, Pd alloys, RuO<sub>x</sub>, or IrO<sub>x</sub>.

42. (cancelled).

43. (currently amended) A capacitor construction comprising:  
a first capacitor electrode containing HSG polysilicon over a substrate;  
a first layer of a metal-containing conductive material ~~[[over]]~~ as a barrier to oxygen diffusion on and in physical contact with the first electrode, the material comprising a chemisorption product of first and second precursor layers;  
a capacitor dielectric layer ~~[[over]]~~ containing oxygen on and in physical contact with the first conductive layer; ~~[[and]]~~  
a second layer of a metal-containing conductive material as a barrier to oxygen diffusion over the dielectric layer, the material comprising a chemisorption product of first and second precursor layers; and  
a second capacitor electrode over the dielectric second conductive layer.

44. (previously presented) The construction of claim 43 wherein the first and second precursor layers each consist essentially of a monolayer.

45. (previously presented) The construction of claim 43 wherein the first and second precursors respectively comprise only one of the following pairs:  $\text{WF}_6/\text{NH}_3$ ,  $\text{TaCl}_5/\text{NH}_3$ ,  $\text{TiCl}_4/\text{NH}_3$ , tetrakis(dimethylamido)titanium/ $\text{NH}_3$ , ruthenium cyclopentadiene/ $\text{H}_2\text{O}$ ,  $\text{IrF}_5/\text{H}_2\text{O}$ , organometallic Pt/ $\text{H}_2\text{O}$ .

46. (cancelled).

47. (currently amended) The construction of claim 43 wherein the conductive ~~layer comprises~~ layers comprise elemental metal, a metal alloy, or a metal containing compound.

48. (previously presented) The construction of claim 43 wherein the conductive material comprises WN, WSiN, TaN, TiN, TiSiN, Pt, Pt alloys, Ir, Ir alloys, Pd, Pd alloys, RuO<sub>x</sub>, or IrO<sub>x</sub>.

49. (cancelled).

50. (previously presented) The construction of claim 26 wherein the substrate comprises a semiconductive wafer.

51. (previously presented) The construction of claim 26 wherein the first capacitor electrode comprises HSG polysilicon.

52. (cancelled).

53. (cancelled).

54. (previously presented) The construction of claim 26 wherein the capacitor dielectric layer comprises Al<sub>2</sub>O<sub>3</sub>.

55. (previously presented) The construction of claim 26 wherein the second capacitor electrode comprises TiN.

56. (currently amended) The construction of claim 26 wherein the first capacitor electrode comprises HSG polysilicon, ~~the atomic layer deposited barrier layer comprises TiN~~, the capacitor dielectric layer comprises  $\text{Al}_2\text{O}_3$ , and the second capacitor electrode comprises TiN.

57. (previously presented) The construction of claim 31 wherein the substrate comprises a semiconductive wafer.

58. (previously presented) The construction of claim 31 wherein the first capacitor electrode comprises HSG polysilicon.

59. (cancelled).

60. (cancelled).

61. (previously presented) The construction of claim 31 wherein the capacitor dielectric layer comprises  $\text{Al}_2\text{O}_3$ .

62. (previously presented) The construction of claim 31 wherein the second capacitor electrode comprises TiN.

63. (currently amended) The construction of claim 31 wherein the first capacitor electrode comprises HSG polysilicon, ~~the barrier layer comprises TiN~~, the capacitor dielectric layer comprises  $\text{Al}_2\text{O}_3$ , and the second capacitor electrode comprises TiN.

64. (previously presented) The construction of claim 38 wherein the substrate comprises a semiconductive wafer.

65. (cancelled).

66. (cancelled).

67. (currently amended) The construction of claim 38 wherein the first atomic layer deposited conductive layer comprises TiN.

68. (previously presented) The construction of claim 38 wherein the capacitor dielectric layer comprises  $\text{Al}_2\text{O}_3$ .

69. (previously presented) The construction of claim 38 wherein the second capacitor electrode comprises TiN.

70. (currently amended) The construction of claim 38 wherein ~~the first capacitor electrode comprises HSG polysilicon,~~ the first atomic layer deposited conductive layer comprises TiN, the capacitor dielectric layer comprises  $\text{Al}_2\text{O}_3$ , and the second atomic layer deposited conductive layer ~~capacitor electrode~~ comprises TiN.

71. (previously presented) The construction of claim 43 wherein the substrate comprises a semiconductive wafer.

72. (cancelled).

73. (cancelled).

74. (currently amended) The construction of claim 43 wherein the first conductive layer comprises TiN.

75. (previously presented) The construction of claim 43 wherein the capacitor dielectric layer comprises  $\text{Al}_2\text{O}_3$ .

76. (previously presented) The construction of claim 43 wherein the second capacitor electrode comprises TiN.

77. (currently amended) The construction of claim 43 wherein ~~the first capacitor electrode comprises HSG polysilicon,~~ the first conductive layer comprises TiN, the capacitor dielectric layer comprises  $\text{Al}_2\text{O}_3$ , and the second conductive layer ~~capacitor electrode~~ comprises TiN.

78. (cancelled).